OIPE

```
              RAW SEQUENCE LISTING            DATE: 09/18/2001
              PATENT APPLICATION: US/09/940,921   TIME: 10:36:16

              Input Set : C:\Crf3\Datahold\09543955
              Output Set: N:\CRF3\09182001\I940921.raw

      4 <110> APPLICANT: Little, II, Roger G.
      6 <120> TITLE OF INVENTION: IDENTIFICAITON OF NOVEL ANTIMICROBIAL AGENTS USING
      7         METABOLIC OXIDATION-REDUCTION INDICATOR DYES
      9 <130> FILE REFERENCE: 27129/36226
C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/940,921
C--> 12 <141> CURRENT FILING DATE: 2001-08-28
     14 <150> PRIOR APPLICATION NUMBER: 60/143,290
     15 <151> PRIOR FILING DATE: 1999-07-12
     17 <160> NUMBER OF SEQ ID NOS: 6
     19 <170> SOFTWARE: PatentIn Ver. 2.1
     21 <210> SEQ ID NO: 1
     22 <211> LENGTH: 1813
     23 <212> TYPE: DNA
     24 <213> ORGANISM: Homo sapiens
     26 <220> FEATURE:
     27 <221> NAME/KEY: CDS
     28 <222> LOCATION: (31)..(1491)
     30 <220> FEATURE:
     31 <221> NAME/KEY: mat_peptide
     32 <222> LOCATION: (124)..(1491)
     34 <400> SEQUENCE: 1
     35 caggccttga ggttttggca gctctggagg atg aga gag aac atg gcc agg ggc  54
     36                                   Met Arg Glu Asn Met Ala Arg Gly
     37                                        -30             -25
     39 cct tgc aac gcg ccg aga tgg gtg tcc ctg atg gtg ctc gtc gcc ata  102
     40 Pro Cys Asn Ala Pro Arg Trp Val Ser Leu Met Val Leu Val Ala Ile
     41           -20             -15             -10
     43 ggc acc gcc gtg aca gcg gcc gtc aac cct ggc gtc gtg gtc agg atc  150
     44 Gly Thr Ala Val Thr Ala Ala Val Asn Pro Gly Val Val Val Arg Ile
     45         -5              -1  1                5
     47 tcc cag aag ggc ctg gac tac gcc agc cag cag ggg acg gcc gct ctg  198
     48 Ser Gln Lys Gly Leu Asp Tyr Ala Ser Gln Gln Gly Thr Ala Ala Leu
     49  10                  15                  20                  25
     51 cag aag gag ctg aag agg atc aag att cct gac tac tca gac agc ttt  246
     52 Gln Lys Glu Leu Lys Arg Ile Lys Ile Pro Asp Tyr Ser Asp Ser Phe
     53                  30                  35                  40
     56 aag atc aag cat ctt ggg aag ggg cat tat agc ttc tac agc atg gac  294
     57 Lys Ile Lys His Leu Gly Lys Gly His Tyr Ser Phe Tyr Ser Met Asp
     58                  45                  50                  55
     60 atc cgt gaa ttc cag ctt ccc agt tcc cag ata agc atg gtg ccc aat  342
     61 Ile Arg Glu Phe Gln Leu Pro Ser Ser Gln Ile Ser Met Val Pro Asn
     62          60                  65                  70
     64 gtg ggc ctt aag ttc tcc atc agc aac gcc aat atc aag atc agc ggg  390
     65 Val Gly Leu Lys Phe Ser Ile Ser Asn Ala Asn Ile Lys Ile Ser Gly
     66          75                  80                  85
     68 aaa tgg aag gca caa aag aga ttc tta aaa atg agc ggc aat ttt gac  438
     69 Lys Trp Lys Ala Gln Lys Arg Phe Leu Lys Met Ser Gly Asn Phe Asp
```

RAW SEQUENCE LISTING   DATE: 09/18/2001
PATENT APPLICATION: US/09/940,921   TIME: 10:36:16

Input Set : C:\Crf3\Datahold\09543955
Output Set: N:\CRF3\09182001\I940921.raw

```
70  90                        95                      100                     105
72 ctg agc ata gaa ggc atg tcc att tcg gct gat ctg aag ctg ggc agt     486
73 Leu Ser Ile Glu Gly Met Ser Ile Ser Ala Asp Leu Lys Leu Gly Ser
74            110                     115                       120
76 aac ccc acg tca ggc aag ccc acc atc acc tgc tcc agc tgc agc agc     534
77 Asn Pro Thr Ser Gly Lys Pro Thr Ile Thr Cys Ser Ser Cys Ser Ser
78            125                     130                       135
80 cac atc aac agt gtc cac gtg cac atc tca aag agc aaa gtc ggg tgg     582
81 His Ile Asn Ser Val His Val His Ile Ser Lys Ser Lys Val Gly Trp
82            140                     145                       150
84 ctg atc caa ctc ttc cac aaa aaa att gag tct gcg ctt cga aac aag     630
85 Leu Ile Gln Leu Phe His Lys Lys Ile Glu Ser Ala Leu Arg Asn Lys
86     155                     160                       165
88 atg aac agc cag gtc tgc gag aaa gtg acc aat tct gta tcc tcc aag     678
89 Met Asn Ser Gln Val Cys Glu Lys Val Thr Asn Ser Val Ser Ser Lys
90 170                     175                       180                   185
92 ctg caa cct tat ttc cag act ctg cca gta atg acc aaa ata gat tct     726
93 Leu Gln Pro Tyr Phe Gln Thr Leu Pro Val Met Thr Lys Ile Asp Ser
94                  190                     195                   200
96 gtg gct gga atc aac tat ggt ctg gtg gca cct cca gca acc acg gct     774
97 Val Ala Gly Ile Asn Tyr Gly Leu Val Ala Pro Pro Ala Thr Thr Ala
98                  205                     210                     215
100 gag acc ctg gat gta cag atg aag ggg gag ttt tac agt gag aac cac     822
101 Glu Thr Leu Asp Val Gln Met Lys Gly Glu Phe Tyr Ser Glu Asn His
102            220                     225                     230
104 cac aat cca cct ccc ttt gct cca cca gtg atg gag ttt ccc gct gcc     870
105 His Asn Pro Pro Pro Phe Ala Pro Pro Val Met Glu Phe Pro Ala Ala
106     235                     240                       245
108 cat gac cgc atg gta tac ctg ggc ctc tca gac tac ttc ttc aac aca     918
109 His Asp Arg Met Val Tyr Leu Gly Leu Ser Asp Tyr Phe Phe Asn Thr
110 250                     255                       260                   265
112 gcc ggg ctt gta tac caa gag gct ggg gtc ttg aag atg acc ctt aga     966
113 Ala Gly Leu Val Tyr Gln Glu Ala Gly Val Leu Lys Met Thr Leu Arg
114                  270                     275                     280
116 gat gac atg att cca aag gag tcc aaa ttt cga ctg aca acc aag ttc    1014
117 Asp Asp Met Ile Pro Lys Glu Ser Lys Phe Arg Leu Thr Thr Lys Phe
118            285                     290                       295
120 ttt gga acc ttc cta cct gag gtg gcc aag aag ttt ccc aac atg aag    1062
121 Phe Gly Thr Phe Leu Pro Glu Val Ala Lys Lys Phe Pro Asn Met Lys
122            300                     305                       310
124 ata cag atc cat gtc tca gcc tcc acc ccg cca cac ctg tct gtg cag    1110
125 Ile Gln Ile His Val Ser Ala Ser Thr Pro Pro His Leu Ser Val Gln
126     315                     320                       325
128 ccc acc ggc ctt acc ttc tac cct gcc gtg gat gtc cag gcc ttt gcc    1158
129 Pro Thr Gly Leu Thr Phe Tyr Pro Ala Val Asp Val Gln Ala Phe Ala
130 330                     335                       340                   345
132 gtc ctc ccc aac tcc tcc ctg gct tcc ctc ttc ctg att ggc atg cac    1206
133 Val Leu Pro Asn Ser Ser Leu Ala Ser Leu Phe Leu Ile Gly Met His
134                  350                     355                     360
```

```
136 aca act ggt tcc atg gag gtc agc gcc gag tcc aac agg ctt gtt gga    1254
137 Thr Thr Gly Ser Met Glu Val Ser Ala Glu Ser Asn Arg Leu Val Gly
138         365                 370                 375
140 gag ctc aag ctg gat agg ctg ctc ctg gaa ctg aag cac tca aat att    1302
141 Glu Leu Lys Leu Asp Arg Leu Leu Leu Glu Leu Lys His Ser Asn Ile
142         380                 385                 390
144 ggc ccc ttc ccg gtt gaa ttg ctg cag gat atc atg aac tac att gta    1350
145 Gly Pro Phe Pro Val Glu Leu Leu Gln Asp Ile Met Asn Tyr Ile Val
146         395                 400                 405
148 ccc att ctt gtg ctg ccc agg gtt aac gag aaa cta cag aaa ggc ttc    1398
149 Pro Ile Leu Val Leu Pro Arg Val Asn Glu Lys Leu Gln Lys Gly Phe
150 410                 415                 420                 425
152 cct ctc ccg acg ccg gcc aga gtc cag ctc tac aac gta gtg ctt cag    1446
153 Pro Leu Pro Thr Pro Ala Arg Val Gln Leu Tyr Asn Val Val Leu Gln
154             430                 435                 440
156 cct cac cag aac ttc ctg ctg ttc ggt gca gac gtt gtc tat aaa        1491
157 Pro His Gln Asn Phe Leu Leu Phe Gly Ala Asp Val Val Tyr Lys
158             445                 450                 455
160 tgaaggcacc aggggtgccg ggggctgtca gccgcacctg ttcctgatgg gctgtggggc 1551
162 accggctgcc tttccccagg gaatcctctc cagatcttaa ccaagagccc cttgcaaact 1611
164 tcttcgactc agattcagaa atgatctaaa cacgaggaaa cattattcat tggaaaagtg 1671
166 catggtgtgt attttaggga ttatgagctt ctttcaaggg ctaaggctgc agagatattt 1731
168 cctccaggaa tcgtgtttca attgtaacca agaaatttcc atttgtgctt catgaaaaaa 1791
170 aacttctggt tttttttcatg tg                                           1813
173 <210> SEQ ID NO: 2
174 <211> LENGTH: 487
175 <212> TYPE: PRT
176 <213> ORGANISM: Homo sapiens
178 <400> SEQUENCE: 2
179 Met Arg Glu Asn Met Ala Arg Gly Pro Cys Asn Ala Pro Arg Trp Val
180      -30                 -25                 -20
182 Ser Leu Met Val Leu Val Ala Ile Gly Thr Ala Val Thr Ala Ala Val
183 -15                 -10                 -5                 -1  1
185 Asn Pro Gly Val Val Val Arg Ile Ser Gln Lys Gly Leu Asp Tyr Ala
186             5                   10                  15
188 Ser Gln Gln Gly Thr Ala Ala Leu Gln Lys Glu Leu Lys Arg Ile Lys
189         20                  25                  30
191 Ile Pro Asp Tyr Ser Asp Ser Phe Lys Ile Lys His Leu Gly Lys Gly
192     35                  40                  45
194 His Tyr Ser Phe Tyr Ser Met Asp Ile Arg Glu Phe Gln Leu Pro Ser
195 50                  55                  60                  65
197 Ser Gln Ile Ser Met Val Pro Asn Val Gly Leu Lys Phe Ser Ile Ser
198             70                  75                  80
200 Asn Ala Asn Ile Lys Ile Ser Gly Lys Trp Lys Ala Gln Lys Arg Phe
201             85                  90                  95
203 Leu Lys Met Ser Gly Asn Phe Asp Leu Ser Ile Glu Gly Met Ser Ile
204         100                 105                 110
206 Ser Ala Asp Leu Lys Leu Gly Ser Asn Pro Thr Ser Gly Lys Pro Thr
207         115                 120                 125
```

RAW SEQUENCE LISTING   DATE: 09/18/2001
PATENT APPLICATION: US/09/940,921   TIME: 10:36:16

Input Set : C:\Crf3\Datahold\09543955
Output Set: N:\CRF3\09182001\I940921.raw

```
209 Ile Thr Cys Ser Ser Cys Ser Ser His Ile Asn Ser Val His Val His
210 130             135             140             145
212 Ile Ser Lys Ser Lys Val Gly Trp Leu Ile Gln Leu Phe His Lys Lys
213         150             155             160
215 Ile Glu Ser Ala Leu Arg Asn Lys Met Asn Ser Gln Val Cys Glu Lys
216         165             170             175
218 Val Thr Asn Ser Val Ser Ser Lys Leu Gln Pro Tyr Phe Gln Thr Leu
219         180             185             190
221 Pro Val Met Thr Lys Ile Asp Ser Val Ala Gly Ile Asn Tyr Gly Leu
222     195             200             205
224 Val Ala Pro Pro Ala Thr Thr Ala Glu Thr Leu Asp Val Gln Met Lys
225 210             215             220             225
227 Gly Glu Phe Tyr Ser Glu Asn His His Asn Pro Pro Pro Phe Ala Pro
228             230             235             240
230 Pro Val Met Glu Phe Pro Ala Ala His Asp Arg Met Val Tyr Leu Gly
231         245             250             255
233 Leu Ser Asp Tyr Phe Phe Asn Thr Ala Gly Leu Val Tyr Gln Glu Ala
234         260             265             270
236 Gly Val Leu Lys Met Thr Leu Arg Asp Asp Met Ile Pro Lys Glu Ser
237     275             280             285
239 Lys Phe Arg Leu Thr Thr Lys Phe Phe Gly Thr Phe Leu Pro Glu Val
240 290             295             300             305
242 Ala Lys Lys Phe Pro Asn Met Lys Ile Gln Ile His Val Ser Ala Ser
243             310             315             320
245 Thr Pro Pro His Leu Ser Val Gln Pro Thr Gly Leu Thr Phe Tyr Pro
246         325             330             335
248 Ala Val Asp Val Gln Ala Phe Ala Val Leu Pro Asn Ser Ser Leu Ala
249         340             345             350
251 Ser Leu Phe Leu Ile Gly Met His Thr Thr Gly Ser Met Glu Val Ser
252     355             360             365
254 Ala Glu Ser Asn Arg Leu Val Gly Glu Leu Lys Leu Asp Arg Leu Leu
255 370             375             380             385
257 Leu Glu Leu Lys His Ser Asn Ile Gly Pro Phe Pro Val Glu Leu Leu
258             390             395             400
260 Gln Asp Ile Met Asn Tyr Ile Val Pro Ile Leu Val Leu Pro Arg Val
261         405             410             415
263 Asn Glu Lys Leu Gln Lys Gly Phe Pro Leu Pro Thr Pro Ala Arg Val
264         420             425             430
266 Gln Leu Tyr Asn Val Val Leu Gln Pro His Gln Asn Phe Leu Leu Phe
267     435             440             445
269 Gly Ala Asp Val Val Tyr Lys
270 450             455
274 <210> SEQ ID NO: 3
275 <211> LENGTH: 10
276 <212> TYPE: PRT
277 <213> ORGANISM: Artificial Sequence
279 <220> FEATURE:
280 <223> OTHER INFORMATION: Description of Artificial Sequence: artificial
281       peptide XMP.365
```

RAW SEQUENCE LISTING   DATE: 09/18/2001
PATENT APPLICATION: US/09/940,921   TIME: 10:36:16

        Input Set : C:\Crf3\Datahold\09543955
        Output Set: N:\CRF3\09182001\I940921.raw

```
283 <220> FEATURE:
284 <221> NAME/KEY: SITE
285 <222> LOCATION: (1)..(10)
286 <223> OTHER INFORMATION: Positions 1-10 are D-amino acids
288 <220> FEATURE:
289 <223> OTHER INFORMATION: The C-Terminus is Amidated
291 <400> SEQUENCE: 3
292 Lys Trp Leu Ile Gln Leu Phe His Lys Lys
293   1           5               10
296 <210> SEQ ID NO: 4
297 <211> LENGTH: 12
298 <212> TYPE: PRT
299 <213> ORGANISM: Artificial Sequence
301 <220> FEATURE:
302 <223> OTHER INFORMATION: Description of Artificial Sequence: artificial
303      peptide XMP.391
305 <220> FEATURE:
306 <223> OTHER INFORMATION: The C-Terminus is Amidated
308 <400> SEQUENCE: 4
310 Lys Val Gly Trp Leu Ile Gln Leu Phe His Lys Lys
311   1           5               10
314 <210> SEQ ID NO: 5
315 <211> LENGTH: 10
316 <212> TYPE: PRT
317 <213> ORGANISM: Artificial Sequence
319 <220> FEATURE:
320 <223> OTHER INFORMATION: Description of Artificial Sequence: artificial
321      peptide XMP.416
323 <220> FEATURE:
324 <221> NAME/KEY: SITE
325 <222> LOCATION: (1)..(10)
326 <223> OTHER INFORMATION: Positions 1-10 are D-amino acids
328 <220> FEATURE:
329 <223> OTHER INFORMATION: The C-Terminus is Amidated
331 <220> FEATURE:
332 <223> OTHER INFORMATION: 8-amino-octanyl group; NH2-(CH2)7-CO at N-Terminus
334 <400> SEQUENCE: 5
335 Lys Trp Leu Ile Gln Leu Phe His Lys Lys
336   1           5               10
339 <210> SEQ ID NO: 6
340 <211> LENGTH: 12
341 <212> TYPE: PRT
342 <213> ORGANISM: Artificial Sequence
344 <220> FEATURE:
345 <223> OTHER INFORMATION: Description of Artificial Sequence: artificial
346      peptide XMP.445
348 <220> FEATURE:
349 <221> NAME/KEY: SITE
350 <222> LOCATION: (1)
```

VERIFICATION SUMMARY   DATE: 09/18/2001
PATENT APPLICATION: US/09/940,921   TIME: 10:36:17

Input Set : C:\Crf3\Datahold\09543955
Output Set: N:\CRF3\09182001\I940921.raw

L:11 M:270 C: Current Application Number differs, Replaced Application Number
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:369 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6